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REMARKS**Rejection under 35 U.S.C. § 112**

The claim limitation "wherein said first reactant does not comprise a hydroxide group" is fully supported by the original specification. Applicants teach a process where reactants react to produce a preoxidized active nickel material in the presence of an oxidizing agent. (See page 6, paragraph 56) The limitation "wherein said first react does not comprise a hydroxide group" would be recognized by one skilled in the art upon reading Applicants' Specification.

The Examiner has indicated that "the lack of a disclosure of a particular feature in the specification will not generally support a negative limitation in a claim directed to the absence of that feature." However, Applicants are not simply claiming an undescribed subclass (reactants lacking hydroxide groups) of a described class (all nickel reactants). Instead, Applicants' claim captures a method for forming the active material (for example, a material having a hydroxide group) in the presence of an oxidizing agent as opposed to exposing the active material to an oxidizing agent after the active material is formed. By forming the active material in the presence of an oxidizing agent, Applicants produce a preoxidized active material. Thus, Applicants respectfully request removal of the rejection under 35 U.S.C. § 112.

**Support for New Amendment and New Claims:**

Claim 1 has been amended to claim a method for making a "preoxidized active nickel material." This amendment is supported in the original specification at, for example, page 6, paragraph 56 and page 3, paragraph 30.

Support for claim 29 can be found on page 3, paragraph 30 of the original specification.

Support for claim 30-32 can be found on page 5, paragraph 45 of the original specification.

Support for claim 33 can be found on page 3, paragraph 30 of the original specification.

Support for claim 34-47 can be found in original claims 3-19.

Claims 48-56 are claims 20-27 of the previous amendment.

**Claim Rejections under 35 U.S.C. § 102 and 35 U.S.C. § 103:**

None of the cited references teach forming a **preoxidized** active nickel material for a positive electrode of a hydrogen storage battery by reacting a first reactant comprising nickel (not nickel hydroxide) with a second reactant in the presence of an oxidizing agent to form **preoxidized** active nickel material particles as required by Applicants' claim 1. As discussed in Applicants' Specification, Applicants' unique process can form preoxidized active material (for example, material having nickel oxyhydroxide distributed throughout a bulk electrode) (see the original specification page 6, paragraph 56 and page 3, paragraph 30). These preoxidized active nickel materials can provide advantages over the prior art such as charge state balancing (see the original specification page 4, paragraph 35). None of the cited references by themselves or in combination teach this claimed limitation.

***Cited References:***

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The Examiner has made rejection under the Bogauchi et al, Ovshinsky et al., Baba et al., Sakamoto et al, and Tanigawa et al, stating that each claim is either anticipated or nonobvious in view of the references. However, none of these references teach making preoxidized active nickel material particles as required by Applicants' claims.

Bogauchi:

Bogauchi teaches subjecting nickel hydroxide substrate (nickel material comprising a hydroxide group) to an oxidation treatment. (column 3, lines 10-57). Bogauchi does not teach forming a **preoxidized** active nickel material or reacting in the presence of an oxidizing agent.

The oxidation process of Bogauchi is fundamentally different from Applicants' claimed method. Bogauchi teaches first making a substrate comprising nickel hydroxide (see first through sixth manufacturing methods in column 3, lines 10-57) and then subjecting the substrate comprising nickel hydroxide to an oxidation treatment. The treatments described in Bogauchi are surface oxidation treatments of substrates comprising already formed NiOH particles. Further, Bogauchi does not provide a process for making **preoxidized** active nickel material for a positive electrode.

Ovshinsky:

Ovshinsky teaches subjecting formed nickel hydroxide to an oxidation treatment. (column 23, lines 4-27). Ovshinsky does **not** teach forming a **preoxidized** active nickel material or reacting in the presence of an oxidizing agent.

The oxidation process of Ovshinsky is fundamentally different from Applicants' claimed method. Ovshinsky teaches first making modified nickel hydroxide particles by precipitation of divalent cobalt hydroxide onto nickel hydroxide particles (column 22, lines 20-25) and subsequently oxidizing the particles by stirring the particles in air over night (column 23, lines 10-14). The process described in Ovshinsky is a surface oxidation treatment of formed NiOH particles. Further, Ovshinsky does not provide a process for making **preoxidized active nickel material for a positive electrode**.

Baba:

Baba teaches subjecting formed nickel hydroxide to an oxidation treatment. (see for example, column 4, lines 17-39). Baba does **not** teach forming a **preoxidized active nickel material or reacting in the presence of an oxidizing agent**.

The oxidation process of Baba is fundamentally different from Applicants' claimed method. Baba teaches spraying sodium hydroxide aqueous solution on the surface of nickel hydroxide particles dispersed in a fluidized granulator with cobalt hydroxide precipitate disposed thereon. The sodium hydroxide aqueous solution which has been uniformly dispersed on the nickel hydroxide particles reacts with the hot air, and as a result, the cobalt hydroxide precipitate has a larger oxidation number. (See column 4 lines 17-39). The process described in Baba is a surface oxidation treatment of formed NiOH particles. Further, Baba does not provide a process for making **preoxidized active nickel material for a positive electrode**.

Sakamoto:

Sakamoto teaches preparing a mixed aqueous solution containing  $\text{NiSO}_4$ ,  $\text{MnSO}_4$ , an aqueous  $\text{NaOH}$  solution and an aqueous  $\text{NH}_3$ . In contrast to Applicants claimed invention, Sakamoto teaches using specific steps to prevent oxidation during formation of  $\text{NaOH}$ . For example, Sakamoto teaches feeding Argon as the components are mixed to remove potential oxidants from the solution (See Sakamoto, Column 10, lines 15-18.)

Sakamoto further teaches obtaining a suspension and subjecting it to decantation to separate the precipitate. This precipitate is washed with water and then the metal oxide powders in the state of being moisturized with water are kept in the air, thereby subjecting the powders to an oxidation treatment. The process described in Sakamoto is a surface oxidation treatment of formed  $\text{NiOH}$  particles. Sakamoto does **not** teach forming a **preoxidized** active nickel material or reacting in the presence of an oxidizing agent.

Tanigawa:

Tanigawa teaches subjecting nickel material to two separate oxidation treatments. In each treatment, the nickel material is already formed  $\text{NiOH}$ . Tanigawa does not teach forming a **preoxidized** active nickel material or reacting in the presence of an oxidizing agent.

The oxidation process of Tanigawa is fundamentally different from Applicants' claimed method. Tanigawa teaches a first oxidation treatment in which raw material containing nickel hydroxide solid solution powder is heated in air at 120 C (column 15, lines 53-55). Tanigawa further teaches a second oxidation treatment in which the resultant raw material of the first treatment is subjected to a second oxidation treatment in a solution containing sodium hydroxide and  $\text{NaClO}$ . (column 15, line 63 – column 16,

line 3). Each of the treatments of Tanigawa is a surface oxidation treatments of already formed NiOH particles. Further, Tanigawa does not provide a process for making **preoxidized** active nickel material for a positive electrode.

Applicants' Claims:

Applicants' claims are directed to surface oxidation treatments of **already formed** active material particles, but rather Applicants' claim is directed to an oxidation treatment of active material particles as the active material particles are being formed. Applicants teach, in an exemplary embodiment of the claimed invention, active metal particles formed by combining an ammonium metal complex (e.g., a sulfate solution) with an ammonium ion solution to form nickel oxyhydroxide throughout the bulk of the electrode (See Applicants' specification page 6, paragraph 56-58 and page 3, paragraph 30). The solutions are combined and thus, the active material particles are formed in the presence of an oxidizing agent, thereby allowing oxidation of the active material as the particles are gradually grown. (page 6, paragraph 57). In contrast to the process taught in Bogauchi, Applicants' claimed method permits the core, bulk and surface of the particles to be oxidized to a predetermined degree (page 6, paragraph 58).

The cited references (Bogauchi et al., Ovshinsky et al., Baba et al., Sakamoto et al, and Tanigawa et al.) do **not** teach for making **preoxidized** active nickel material for a positive electrode. Further, the cited reference does **not** teach forming the **preoxidized** active nickel material or reacting in the presence of an oxidizing agent.

Claim Rejections 35 U.S.C. §102(b)

***Claims 20-25 (See new claim 48 and claims dependant on claim 48)***

Claim 48 (and all claims dependant thereon) is directed to forming a preoxidized material and effecting a reaction between said first reactant and said second reactant in the presence of an oxidizing agent. None of the cited references (Bagauchi, Ovshinsky, Baba, and Sakamoto) teach or suggest these claim limitations. Thus, claims 48 – 56 are not anticipated by the cited references.

***Claims 1 and 6-9 (See new claim 1 and claims dependant on claim 1)***

Claim 1 (and all claims dependant thereon) is directed to a method of making a preoxidized active nickel material for a positive electrode by reacting reactants in the presence of an oxidizing agent. None of the cited references (Bagauchi, Ovshinsky, Baba, Sakamoto and Tanigawa) teach or suggest this claim limitation. Thus, claims 1, and 29-47 are not anticipated by the cited references. Therefore, removal of the rejection is respectfully requested.

**Claim Rejections 35 U.S.C. §102(e)*****Claims 20-25 (See new claim 48 and claims dependant on claim 48)***

Claim 48 (and all claims dependant thereon) is directed to forming a preoxidized material and effecting a reaction between said first reactant and said second reactant in the presence of an oxidizing agent. Tanigawa does not teach or suggest this claim limitation. Thus, claims 48 – 56 are not anticipated by the cited references. Therefore, removal of the rejection is respectfully requested.



**Claim Rejections 35 U.S.C. §103(a)**

***Claims 2, 5, 10, 11, 13, 14, 16-19 (See all new claim 1 and claims dependant on claim 1)***

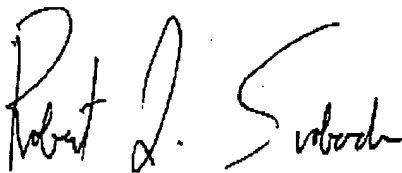
Claim 1 (and all claims dependant thereon) is directed to a method of making a preoxidized active nickel material for a positive electrode by reacting reactants in the presence of an oxidizing agent. The cited combination must teach each and every element of Applicants claimed invention. However, none of the references (Bagauchi, Ovshinsky, Baba, Sakamoto and Tanigawa), individually or in combination, teach this claim limitation. Thus, claims 1, 29-47 Applicants claimed invention is nonobvious over the cited combination. Therefore, removal of the rejection is respectfully requested.

***Claim 26-28 (See new claim 48 and claims dependant on claim 48)***

Claim 48 (and all claims dependant thereon) is directed to forming a preoxidized material and effecting a reaction between said first reactant and said second reactant in the presence of an oxidizing agent. Tanigawa does not teach or suggest this claim limitation. Thus, claims 48 - 56 are nonobvious by the cited references. Therefore, removal of the rejection is respectfully requested.

Applicants believe that the rejection of claims has been overcome and that claims 1, 29-56 are allowable over the references cited by the Examiner. Applicants respectfully request withdrawal of all outstanding rejections and respectfully submit that the application stands in condition for allowance. If the Examiner has any questions or suggestions regarding this amendment, the Examiner is respectfully asked to contact Applicants' representative at the telephone number or email address listed below.

Respectfully submitted,



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